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09/667,732	09/22/2000	Naoki Tsumura	2271/62515	9975

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Ivan S Kavrukov Esq
Cooper & Dunham LLP
1185 Avenue of the Americas
New York, NY 10036

EXAMINER	
CHANG, ERIC	
ART UNIT	**PAPER NUMBER**
2116	

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/667,732	TSUMURA, NAOKI	
	Examiner	Art Unit	
	Eric Chang	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-16 are pending.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3-8, 10-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,656,318 to Noyes in view of U.S. Patent 5,910,978 to Maytal et al.

4. As to claim 1, Noyes discloses a communication apparatus connected to an analog communication network, the apparatus comprising:

[a] a line interface circuit for connecting to the analog network [FIG. 1, element 16, and col. 3, lines 36-40];

[b] a digital signal processing circuit coupled to the line interface circuit for modulating and demodulating signals [FIG. 1, elements 13-14, and col. 3, lines 40-53];

[c] a digital interface circuit between the line interface circuit and the digital signal processing circuit that electrically isolates signals between the two circuits [FIG. 2, elements 22-24, and col. 4, lines 6-10]; and

[d] a power-saving control device to suspend operation of the communication apparatus during a power-saving state, and resume operation of the apparatus when an incoming call signal

is received by the network control signal during the power-saving state [FIG. 1, element 15&19, and col. 2, lines 10-21].

Noyes teaches all of the limitations of the claim but does not teach that a digital signal processing unit performs the modulation/demodulation and incoming call signal detection.

Maytal teaches a modem for connecting a computer to an analog communication device [col. 2, lines 33-26]. Thus, Maytal teaches a communication terminal apparatus similar to that of Noyes. Maytal further teaches that it is well known in the art that a digital signal processing unit performs the modulation/demodulation and incoming call signal detection [col. 2, lines 27-35].

At the time that the invention was made, it would have been obvious to a person of ordinary skill in the art to employ the digital signal processor as taught by Maytal. One of ordinary skill in the art would have been motivated to do so that a single circuit can handle the modulation/demodulation of signals, as well as the initiation of communication comprising dialing, hook and ring detection, and the like.

It would have been obvious to one of ordinary skill in the art to combine the teachings of the cited references because they are both directed to the problem of implementing an interface between a computer and an analog communication network. Moreover, the digital signal processor means taught by Maytal would improve the efficiency of Noyes because it allowed the response times during communication to be within acceptable parameters [col. 1, lines 16-21].

5. As to claims 3-5, Noyes discloses the various sections of the communications apparatus, such as the network control section are connected by lines that are used to transmit the proper control signals when the apparatus is placed into a power-saving state, or when it is being placed

return-to-normal state, substantially as claimed [FIG. 1, and col. 3, lines 57]. It is well known to one of ordinary skill in the art that such lines may comprise dedicated lines, common signal lines, or serial communications lines, substantially as claimed.

6. As to claim 6, Noyes and Maytal disclose a communication apparatus comprising circuits for performing the tasks, including interfacing with the network, modulating/demodulating signals, isolating components, and providing power-saving control, substantially as claimed. Because Noyes and Maytal teach the apparatus comprising circuits for performing these tasks, Noyes and Maytal also teach the apparatus comprising means for performing these tasks.

7. As to claim 7, Noyes and Maytal disclose a communication apparatus comprising circuits for performing the tasks, including interfacing with the network, modulating/demodulating signals, isolating components, and providing power-saving control, substantially as claimed. Because Noyes and Maytal teach the apparatus comprising circuits for performing these tasks, Noyes and Maytal also teach the method comprising the steps of performing these tasks, wherein the apparatus resumes normal operation of modulating/demodulating signals for use on the analog network when it receives an incoming call while in a power-saving mode. Furthermore, Noyes teaches that the host computer for the apparatus may further comprise a "sleep" mode, and it is well known in the art that sleep modes for computers and their related apparatuses may be entered when they have been idle for a pre-determined period of time, substantially as claimed [col. 7, lines 46-50].

8. As to claim 8, Noyes discloses a method of controlling a communication terminal comprising:

[a] a modem for communicating with an analog network system [FIG. 1, elements 13-14, and col. 3, lines 40-53];

[b] electrically isolating signals between the line interface circuit and the digital signal processing circuit that [FIG. 2, elements 22-24, and col. 4, lines 6-10];

[c] selectively providing a first control signal to place the apparatus in a low-power state to save power [col. 5, lines 8-11, and col. 7, lines 27-34];

[d] selectively providing a second control signal to place the apparatus in an active state for communicating on the network [col. 5, lines 8-11, and col. 7, lines 51-64]; and

[e] thereby saving power while retaining the ability to return to an active state [col. 2, lines 10-21];

9. As to claim 10, Noyes discloses suspending the apparatus by reducing an amount of power supplied to the modem subsystem [col. 2, lines 10-13].

10. As to claim 11, Noyes discloses the power-saving state of the apparatus is further controlled by a CPU [col. 3, lines 58-68, and col. 5, lines 8-11].

11. As to claim 12, Noyes and Maytal disclose a method comprising steps for performing the tasks, including providing a modem subsystem, and selectively providing signals to place the apparatus into a lower-power state to save power and subsequently returning the apparatus from

said state, substantially as claimed. Because Noyes and Maytal teach the method, Noyes and Maytal also teach the apparatus for performing these tasks.

12. As to claim 14, Noyes discloses suspending the apparatus by reducing an amount of power supplied to the modem subsystem [col. 2, lines 10-13].

13. As to claim 15, Noyes discloses the power-saving state of the apparatus is further controlled by a CPU [col. 3, lines 58-68, and col. 5, lines 8-11].

14. As to claim 16, Noyes discloses the network control signal processing section remains powered and in operation when the apparatus is in said power-saving state [col. 4, lines 60-64]. In addition, Noyes teaches that it is also well known in the art that network control signal processing sections, such as used in ring detection, may be powered during a power-saving state to maintain operation of said sections [col. 1, lines 54-63].

15. Claims 2, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,656,318 to Noyes, Noyes in view of U.S. Patent 5,910,978 to Maytal et al., and in further view of U.S. Patent 6,445,733 to Zuranski et al.

16. As to claims 2, 9 and 13, Noyes and Maytal disclose a modem, comprising electrical isolation of network signals, that provides for a low-power state from which the apparatus can be returned to the active state, substantially as claimed.

Noyes and Maytal teach all of the limitations of the claims but does not teach that a clock control device configured to halt the clock signal to the modem during the power-saving state and providing the clock during the normal operating state.

Zuranski teaches that a modem that implements a low-power state can be placed into said low-power state by reducing or stopping clock signals within the modem [col. 7, lines 14-26].

At the time that the invention was made, it would have been obvious to a person of ordinary skill in the art to place the modem in a low-power state by reducing the clock signal as taught by Zuranski. One of ordinary skill in the art would have been motivated to do so that the processing elements of the modem consume less power than in active mode.
It would have been obvious to one of ordinary skill in the art to combine the teachings of the cited references because they are both directed to the problem of implementing a low-power state in a modem apparatus. Moreover, the clock rate reduction means taught by Zuranski would improve the flexibility of Noyes and Maytal because it allowed the modem power consumption to be reduced by means other than simply reducing the power to the components. The means taught by Zuranski would also allow for partial speed and thermal throttling of the modem processors, if so desired.

Response to Arguments

17. Applicant's arguments filed Jauary 10, 2005 have been fully considered but they are not persuasive.

18. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that a line interface circuit and a network control signal processing section of a digital signal processing section of a digital signal processing circuit remain in operation and powered while operation of a modulation and demodulation processing section of the digital signal processing circuit is suspended in a power-saving state) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

19. However, even if such features were recited in the rejected claims, the combination of the Noyes, Maytal and Zuranski references would continue to teach all of the limitations of the claims.

20. In the remarks, applicants argued in substance that if the teachings of Noyes and Maytal are combined, the DSP unit disclosed by Maytal would merely replace the modulator/ demodulator and ring detector (among other elements) of Noyes, and the DSP of the modified modem would be powered down in a power saving state in its entirety, as taught by Noyes. But Noyes teaches that the ring detector remains powered and in operation when the apparatus is in said power-saving state [col. 4, lines 60-64]. Therefore, in combining the teachings of Noyes and Maytal, it would be obvious to one of ordinary skill in the art that the signal detector portion of the network signal control processing section of the DSP would likewise remain powered

while the remainder of the modem was in a power saving state, because Noyes teaches that such a signal detector does remain powered during said power saving state.

21. Furthermore, Noyes teaches that it is also well known in the art that network control signal processing sections, such as used in ring detection, may be powered during a power-saving state to maintain operation of said sections even while other sections of the modem were powered off [col. 1, lines 54-63]. Thus, it would also be obvious that combining the teachings of Maytal with power saving techniques known to one of ordinary skill in the art at the time the invention was made would result in a modem capable of entering a power saving state while maintaining power to network control signal processing sections of the DSP.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Chang whose telephone number is (571) 272-3671. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 15, 2005
ec

LYNNE H. BROWNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100